

Translation

4-15-05
PATENT COOPERATION TREATY

PCT

523,944
PCT/DE2003/003044



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference In1254WO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/DE2003/003044	International filing date (day/month/year) 13 September 2003 (13.09.2003)	Priority date (day/month/year) 16 September 2002 (16.09.2002)
International Patent Classification (IPC) or national classification and IPC H01L 21/8242		
Applicant INFINEON TECHNOLOGIES AG		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 4 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 25 March 2004 (25.03.2004)	Date of completion of this report 19 October 2004 (19.10.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/DE2003/003044

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
 pages 1-13, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☒ the claims:
 pages _____, as originally filed
 pages _____, as amended (together with any statement under Article 19
 pages _____, filed with the demand
 pages 1-14, filed with the letter of 01 October 2004 (01.10.2004)
- ☒ the drawings:
 pages 1/3-3/3, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
 These elements were available or furnished to this Authority in the following language _____ which is:
- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/DE 03/03044

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-14	YES
	Claims		NO
Inventive step (IS)	Claims	1-14	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-14	YES
	Claims		NO

2. Citations and explanations

1. Certain documents cited

Patent no.	Publication date	Filing date
DE10133688	26 September 2002	11 July 2001

The document designated as a P document in the search report should not be taken into consideration as prior art according to PCT Article 33(2) and (3), since the claimed priority date may be acknowledged for the relevant parts of the present application.

2. Reference is made to the following documents:

D1: DE 101 33 688 A (INFINEON TECHNOLOGIES AG)
26 September 2002

D2: PATENT ABSTRACTS OF JAPAN vol. 014, no. 187 (E-0917), 16 April 1990 (1990-04-16) & JP 02 035770 A (MATSUSHITA ELECTRIC IND CO LTD), 6 February 1990 (1990-02-06)

D3: US-A-5 055 898 (BEILSTEIN JR KENNETH E ET AL)
8 October 1991

D4: US-B-6 306 7191 (LEE KYU-PIL)
23 October 2001 (2001-10-23)

D5: WO 99/25026 A (LEHMANN VOLKER; SIEMENS AG (DE))
20 May 1999

D6: DE 100 55 711 A (INFINEON TECHNOLOGIES AG)
23 May 2002

D7: US-A-5 739 565 (MIYAWAKI MAMORU ET AL)
14 April 1998 (1998-04-14)

D8: EP-A-0 553 791 (NIPPON ELECTRIC CO)
4 August 1993 (1993-08-04)

D9: US-B-6 441 4241 (HOENLEIN WOLFGANG ET AL)
27 August 2002

D10: PATENT ABSTRACTS OF JAPAN vol. 012, no. 412 (E-676), 31 October 1988 (1988-10-31) & JP 63 151071 A (MATSUSHITA ELECTRIC IND CO LTD), 23 June 1988 (1988-06-23)

D3, which is considered to represent the closest prior art in relation to the subject matter of claim 1, discloses a process for fabricating a semiconductor substrate in which a semiconductor component substrate is connected to a carrier substrate. The thickness of the semiconductor component substrate is then etched back to enable components to be mounted and connected to capacitor electrodes (cf. column 4, lines 14-16). The subject matter of claim 1 thus differs from the known process in that a part of the semiconductor component substrate is cleaved off.

The subject matter of claim 1 is therefore novel (PCT Article 33(2)).

The subject matter of claim 1, insofar as it goes beyond D3, is not suggested by any of the citations and a cleavage process to separate two interconnected substrates is not disclosed. The

subject matter of claim 1 therefore meets the PCT requirements for novelty and inventive step.

Claims 2-14 are dependent on claim 1 and therefore likewise meet the PCT requirements for novelty and inventive step.